PERIODIC MOPED INSPECTION HANDBOOK

DEPARTMENT OF TRANSPORTATION
State of Hawaii

EXHIBIT

DATE: September 18, 1984

MOPED

INSPECTION HANDBOOK

C O N T E N T S

DEFINITIONS

General Definitions-Moped

1. MOPED

A device upon which a person may ride which has two or three wheels in contact with the ground, a motor having a maximum power output capability measured at the motor output shaft, in accordance with the Society of Automotive Engineers standards, of one and one-half horsepower (one thousand one hundred nineteen watts) or less and, if it is a combustion engine, a maximum piston or rotor displacement of 3.05 cubic inches (fifty cubic centimeters) and which will propel the device unassisted, on a level surface at a maximum speed no greater than thirty-five miles per hour; and a direct or automatic power drive system which requires no clutch or gear shift operation by the driver after the drive system is engaged with the power unit.

2. LONGITUDINAL PLANE OF SYMMETRY

a. Two-wheeled moped: A vertical plane that passes through the centerline of the front and rear wheels.

b. Three-wheeled moped: A vertical plane that passes through the centerline of a single wheel and through the midpoint of two wheels sharing the same axis of rotation.

3. CURB WEIGHT

The weight of a moped with standard equipment, maximum capacity of engine oil, and fuel, but without the driver and cargo.

REGISTRATION

General Instructions

1. The first step in the inspection of a moped should be a review of the registration certificate, registration decal and the vehicle identification numbers (VIN).
   NOTE: The VIN is the same as the serial numbers. Mopeds which were manufactured after September 1, 1980, must have a VIN that consists of 17 alpha-numerical characters.

PROCEDURE	REJECT MOPED IF:
A. Verification of documents Inspect registration certificate, registration decal, moped description and VIN. Determine if there is proper agreement among them.	A. Verification of documents 1. The current registration certificate is not available. 2. The moped description or VIN is not in agreement with the registration certificate. 3. The numbers on the registration decal are not in agreement with the numbers on the registration certificate.
B. Registration decal mounting and condition Inspect the registration decal to see that it is affixed to the lower portion of the rear fender facing rearward, is clean, legible and clearly visible.	B. Registration decal mounting and condition 1. Any registration decal is missing. 2. Registration decal is improperly located. 3. Registration decal numbers are not legible.

TIRES

Definitions

1. RIM — The metal support for a tire or a tube assembly upon which the tire beads are seated.
2. BEAD — That part of a tire made of steel wires, wrapped or reinforced by ply cords and shaped to fit the inner edge of the rim.
3. SIDEWALL — That portion of a tire between the tread and the bead.
4. CORD — The strands forming the plies in the tire.
5. PLY — A layer of rubber-coated parallel cords.
6. TREAD — That portion of a tire that comes into contact with the road.
7. TREAD RIB — A tread section running circumferentially around a tire.
8. GROOVE — The space between two adjacent tread ribs.
9. D O T SYMBOL — The "DOT" symbol stands for the U.S. Department of Transportation. A requirement of the Federal Motor Vehicle Safety Standards.

Tools and Equipment

1. Tread depth measuring gauge.

PROCEDURE	REJECT MOPED IF:
A. Inspection of tire 1. Tires without tread wear indicators. (Tread measurement shall not be made where tie bars, bumps or fillets are located.)	A. Inspection of tire 1. Tire is worn so that less than 1/32 inch tread remains in any groove at three locations equally spaced around the circumference of the tire, at least one of which shall be at the point where the tread is thinnest.
2. Tires with tread wear indicators.	2. Tire is worn so that tread wear indicators show a tread depth of 1/32 inch or less remains in any groove at three locations equally spaced around the circumference of the tire.
B. Inspect for cord exposure.	B. Any part of the cord or ply is exposed.
C. Inspect for tread cuts, snags, or outside wall cracks.	C. Any tread or sidewall cracks, cuts, or snags deep enough to expose any of the body cords.
D. Check sidewall labeling or markings.	D. Tire labeling or markings indicating "Not for highway use," "For racing purposes only," "Unsafe for highway use," or no "DOT" symbol molded into the sidewall.
E. Inspect for bumps, bulges or knots.	E. Tire has visible bumps, bulges, or knots indicating partial failure or separation of the tire structure.
F. Inspect for regrooved or recut tires.	F. Any tire has been regrooved or recut.

WHEELS

Definitions

1. SPOKES — The rods or braces that connect the hub and the rim of a wheel.

PROCEDURE	REJECT MOPED IF:
A. Inspect wheel bolts, nuts, studs and lugs.	A. Any wheel bolts, nuts, studs, or lugs are loose missing or damaged.
B. Inspect for wheel damage.	B. Any part of the wheel is bent, cracked, rewelded, damaged or spokes that are missing or loose so as to affect safe operation of the moped.
C. Inspect for trueness.	C. Measured at edge of rim, Wheel has eccentricity or wobble in excess of 3/16 inch (5mm.).

BRAKES

Definitions

1. BRAKING DISTANCE — The distance travelled by a moped from the point of application of the force to the brake control to the point at which the moped reaches a full stop.

2. BRAKE SYSTEM — A combination of one or more brakes and their related means of operation and control.

3. BRAKE SERVICE SYSTEM — A brake system used for retarding, stopping and controlling the moped braking under normal operating conditions. Brake service system shall incorporate braking capability on all wheels except originally so equipped.

4. BRAKE CONTROL RESERVE — The amount of brake control left in reserve when the brake control is actuated to the brake fully applied position. NOTE: The purpose of the brake control reserve check is to ascertain the degree of the brake adjustment and to demonstrate satisfactory brake actuation system condition.

5. SPLIT SERVICE BRAKE SYSTEM — A brake system consisting of two or more sub-systems actuated by a single control, designed so that a leakage-type failure of a pressure component in a single sub-system (except structural failure of a housing that is common to all sub-systems) shall not impair the operation of the other sub-system(s).

6. HYDRAULIC BRAKE SYSTEM — A brake system in which the brakes are applied hydraulically. This may incorporate mechanical sub-systems.

7. MECHANICAL BRAKE SYSTEM — A brake system in which the brakes are applied by mechanical means through the use of cables and linkage only.

8. BRAKE DRUM — The cylindrical rotational member of a drum brake assembly acted upon by the friction material.

9. BRAKE DISC OR ROTOR — The parallel-faced circular rotational member of a disc brake assembly acted upon by a frictional material.

10. PARKING BRAKE — A friction type brake with a solely mechanical means to retain engagement. Required only on three-wheeled mopeds.

Notes for Inspectors

1. If equipped with speedometer and odometer, conduct functional test during the brake performance test. (Speedometer is optional)

Tools and Equipment

1. Measuring device, steel gauge or scale.

PROCEDURE	REJECT MOPED IF:
A. Mechanical Brake system Initiate inspection of linkage, cables, pivots, and bearings for high friction, wear and broken parts.	A. Mechanical Brake System 1. There is an angle greater than 110° between the cam operating lever and the actuating cable or rod in the fully applied position. 2. It is determined the cam operating lever has been repositioned on the shaft as a means of avoiding replacement of worn cam, worn shoes or worn lining. 3. Any cables are frayed. (One broken strand). 4. Brake adjusters do not have means to be locked. 5. Front brake cable routed to be pinched between fork and frame.

PROCEDURE	REJECT MOPED IF:
	6. Levers are not free to return. 7. The hand levers do not have at least one third of their travel as reserve after the brakes are normally applied. 8. Brake adjustment changes with fork extended (loaded). 9. Braking capability has been removed from any wheel originally so equipped.
B. Condition of Mechanical Components 1. Inspect for worn pins and missing or defective cotter pins. 2. Inspect for broken or missing springs and worn cables, clevises, couplings, rods, and anchor pins. 3. Inspect for frozen, rusted or inoperative connections, missing spring clips and defective grease retainers. 4. Inspect hand levers for travel restrictions, wear at pivot points and misalignment. 5. Inspect for restriction of shoe movement at backing plate for bind between brake shoe and anchor pins.	B. Condition of Mechanical Components 1. Mechanical parts are missing, broken or badly worn. 2. There is travel restriction of hand levers and linkages or in brake components. 3. Hand levers are improperly positioned or misaligned. 4. Unusual or excessive wear at any mechanical pivot points in the brake system components. 5. Brake shoes are restricted from full travel.

PROCEDURE	REJECT MOPED IF:
6. Inspect actuating cam for excessive wear, camshaft for looseness and determine that springs are of sufficient strength to return and hold shoes against cam.	
C. Hydraulic System Visually inspect condition of hydraulic system.	C. Hydraulic System
1. Inspect hydraulic system for leaks, cracks, chaffing, flattened or restricted sections and improper support.	1. a) Hoses or tubings leaks or they are cracked, chafed, flattened, restricted or are insecurely fastened. b) Braking capability has been removed from any wheel originally so equipped.
2. Inspect master cylinder for leakage and fluid level.	2. Master cylinder leaks, or the fluid level is less than the minimum level as specified by the manufacturer. (Advise driver if fluid level in master cylinder is below the normal level specified by the manufacturer, brake system should be checked for leakage.)
3. Inspect master cylinder push rod for improper adjustment.	3. Push rod adjustment fails to meet the recommended tolerances of the manufacturer.
4. Inspect wheel cylinders or hydraulic brake actuating systems.	4. a) Any leakage is noted in the braking system. b) Wheel cylinder leaks.
D. Condition of Linings and Pads	D. Condition of Linings and Pads
1. Bonded Linings Measure the lining thickness at the thinnest point.	1. Bonded Linings The thinnest point is less than 1/32 inch.

PROCEDURE	REJECT MOPED IF:
2. Riveted Linings a) Inspect for loose or missing rivets. b) Measure lining thickness above rivet head at thinnest point. c) Inspect for cracks or breaks.	2. Riveted Linings a) Any rivets are loose or missing. b) Lining is less than 1/32 inch over any rivet head. c) There are cracks or breaks that extend to rivet holes. (Except for minor cracks that do not impair brake operation.)
3. All Linings Inspect for broken or cracked linings and parts of linings not firmly attached to shoe. Also, inspect for contamination.	3. All Linings a) Lining is cracked, broken, or not firmly and completely attached to shoe. b) Friction surface is soaked with oil, grease or brake fluid.
4. Pads (Disc Brakes) Inspect thickness of friction pad.	4. Pads (Disc Brakes) a) Pad is less than 1/32 inch over any rivet head. b) The thinnest point of a bonded friction pad is less than 1/32 inch.
E. Brake Drums a) Inspect the condition of the drum friction surface for substantial cracks extending to the open edge of the drum.	E. Brake Drums a) There are substantial cracks on the friction surface extending to the open edge.
b) Inspect for cracks on the outside of the drum.	b) There are external cracks.
c) Inspect for damage and extreme wear. Measure as required.	c) Brake drum is scored, deeply grooved, distorted, out of round, bellmouthed, or worn beyond manufacturer's recommended limit or diameter stamped on drum.
d) Inspect for contaminated friction surface.	d) Friction surface is contaminated with oil, grease or brake fluid.

PROCEDURE	REJECT MOPED IF:
F. Brake Rotor Disc a) Inspect for substantial cracks extending to edge of rotor disc. b) Inspect for damage and extreme wear. Measure as required. c) Inspect for contamination on friction surface. G. Brake Performance a) At a speed of 20 miles per hour, on a surface which is dry and level and free from loose materials, the brakes are required to stop the moped within 24 feet.	F. Brake Rotor Disc a) There are substantial cracks extending to the edge. b) Rotor disc is scored, deeply grooved, or worn beyond the manufacturer's allowable minimum or thickness stamped on the disc. c) Friction surface is contaminated with oil, grease or brake fluid. G. Brake Performance a) The moped fails to stop within 24 feet. b) The brakes does not indicate adequate braking performance.

STEERING ALIGNMENT AND SUSPENSION

Definitions

1. FRONT FORK	The front suspension assembly including the shock absorber and steering mechanism.
2. HANDLEBARS	The attachments to the front fork or steering shaft, used to control steering.
3. HANDLEBAR CONTROLS, LEVERS, CABLES	A throttle control (twist grip) is located on the right handlebar. A front brake lever (hand pull) is located on the right handlebar. Control cables normally attach the throttle control to the carburetor, and the handlebar levers to mechanical front brakes. Fluid tubes are used in the case of hydraulic front brake in lieu of cable attachment. Rear brake controls shall be located on the left handlebar.
4. HANDLEBAR MOUNTS	The method of attaching the handlebars to the forks or steering shaft, clamping to fork legs or to the top fork lug by use of "U" bolts, clamps or rubber mounted brackets.
5. JAMMING	An obstruction or stop to the movement of the handlebars up to designed steering stops.
6. LOADED	The condition where the front wheel of the moped is on the surface, bearing its full portion of the weight of the moped.
7. PLAY	Any free steering movement of the handlebars without equivalent steering movement of the front wheel.
8. RAKE ANGLE (CASTER ANGLE)	The acute angle in the longitudinal plane of symmertry between the steering head or kingpin axis and the vertical. (Not to be confused with front fork angle.)
9. SHOCK ABSORBERS	Energy dissipating devices which provide damping of spring or unsprung mass and relative motion; increase moped stability; and improve steering, handling and ride performance.
10. STEERING HEAD	The top front frame head, through which the fork stem is fitted in bearings or bushes to provide the front wheel steering axis.

11. STEERING STOPS — An obstruction or stop, limiting the rotation of the front forks in either direction.

12. TRAIL — The horizontal distance between a vertical line through the front wheel axle centerline and the projection of the steering head axis measured at the tire-to-ground contact surface with the moped "loaded" on a level plane.

13. WHEEL PLANE — The central plane of the tire-wheel system, perpendicular to the axis or rotation.

Tools and Equipment

1. Moped repair stand.

PROCEDURE	REJECT MOPED IF:
A. Steering Head Bearing Adjustment 1. Place the moped on a repair stand with front wheel raised clear of weight-bearing contact. Grasp both the left and right fork legs at axle location and apply alternating fore and aft force. 2. Turn handlebars slowly from side to side and visually inspect bearings. 3. Remove moped from repair stand and repeat Step 2.	A. Steering Head Bearing Adjustment 1. Noticeable play or roughness when fore and aft force is applied. 2. Noticeable play or roughness in rotation as well as pitted bearings; also, If front fork falls to one side or the other after it has been turned at least 5 degrees off the straight ahead position. 3. Noticeable play or roughness is found within the steering head bearings. Note: Drag from steering damper, if fitted, or drag from cables is not cause for rejection.

PROCEDURE	REJECT MOPED IF:
B. Wheel Bearings 1. While moped is on repair stand, grasp tire at top and bottom, and shake in and out or back and forth. 2. Rotate wheel.	B. Wheel Bearings There is noticeable play, vibrations or wheel bearing noise; Or wheel play exceeds the manufacturer's recommended tolerances when measured at the bead seat diameter.
C. Handlebars 1. Inspect visually all of the exposed areas of the handlebars. 2. Rotate the handlebars attached to forks from steering stop to steering stop. 3. Measure the height of the handlebars. 4. Measure the width of the handlebars, and visually inspect hand grips. 5. Consult manufacturer's specifications for handlebar thickness of moped make and model.	C. Handlebars 1. Cracks, deformation, improper alignment, or excessive flexure other than flexure from rubber mounts. 2. Handlebars cause an obstruction that prevents rotation of fork from steering stop to stop. 3. The lowest part of the handlebars is 15 inches (38cm.) above that portion of the moped seat occupied by the rider. 4. a) Handlebars are less than 18 inches (46cm.) measured end to end, as mounted on the moped. b) Handlebars are not properly equipped with the manufacturer's recommended hand grips. 5. Handlebar is not constructed of at least .060 inches (1.5mm.) thick steel tubing.

PROCEDURE	REJECT MOPED IF:
D. Handlebar Controls 1. Inspect throttle twist grip. 2. Inspect brake lever and cables.	D. Handlebar Controls 1. Throttle twist grip does not rotate freely from stop to stop. 2. a) Control levers are loose on the handlebars, or control levers do not operate freely. b) Outer cable housing is damaged and/or inner cables with loose ends, severe bends, kinks, or broken strands.
E. Shock Absorbers 1. Visually inspect the shock absorbers, if so equipped. 2. Press down on moped over the shock absorber with full body weight.	E. Shock Absorbers 1. Broken or cracked springs or mounts. 2. Shock absorbers have no dampening effect.
F. Alignment 1. Visually examine front wheel to front fork tubes alignment. 2. Inspect wheel track alignment (tracking of rear wheel in relation to front wheel.)	F. Alignment 1. Front wheel plane is not parallel to front fork tubes, and/or front tubes are bent or damaged enough to prevent full free action of front fork. 2. Rear wheel does not track perfectly over front wheel track.
G. Rake (Caster Angle) 1. Check manufacturer's recommended specifications. 2. Visually examine frame at steering head. NOTE: If cracks are suspected during visual inspection, a further test for cracks may be required using advanced technology.	G. Rake (Caster Angle) 1. Modifications or deviations are beyond the manufacturer's recommended specifications. 2. Cracked frame adjacent to welded area, defective weld or structural integrity. NOTE: Further test for suspected cracks shall be at owner's cost.

LIGHTING AND ELECTRICAL SYSTEM

Definitions

1. HEADLAMP SYSTEM — A major lighting device and related equipment used to provide general illumination ahead of the moped.

2. MOTOR-DRIVEN CYCLE SEALED BEAM HEADLAMP — Consists of a housing which has a separable bulb, lens, and reflector, and provides an upper beam filament or an upper and lower beam filament.

3. MOTOR-DRIVEN CYCLE SEALED BEAM HEADLAMP — A sealed beam optical unit that provides a single beam filament or an upper and lower beam filament, or a sealed-in bulb.

4. MULTIPLE BEAM HEADLAMP — Incorporates and upper and low beam.

5. SINGLE BEAM HEADLAMP — Incorporates upper beam only.

6. HEADLAMP UPPER BEAM — A distribution of white light intended primarily for distant illumination and for use on the open highway when not meeting other vehicles.

7. HEADLAMP LOWER BEAM — A distribution of white light so directed as to avoid glare in the eyes of oncoming drivers while providing illumination ahead of the moped, and intended for use in congested areas and on highways when meeting other vehicles within a distance of 500 feet (152 meters).

8. TAILLAMPS — Lamps providing red colored illumination to designate the rear of a moped.

9. STOPLAMPS — Lamps giving a steady red warning light to the rear of a moped, to indicate that the moped brakes are being applied. Stop lamps are activated automatically upon application of the rear brake.

10. LICENSE PLATE LAMPS — A lamp providing white illumination for the license plate on the rear of a moped.

11. TURN SIGNAL LAMPS — Lamps that provide a flashing warning light to indicate the intended direction of a turn, to others in the front or rear of the moped. Yellow toward front of moped and red or yellow toward rear.

12. REFLECTIVE DEVICES — Devices used on moped to give an indication to an approaching driver by reflected light from the headlights of approaching vehicles. Those at or near the rear of the moped are red in color, all others are yellow in color.

13. INDICATOR LAMPS — Lamps visible to the operator of a moped that indicate:

(a) Appropriate electrical circuits are in operation.

(b) Malfunction of moped performance.

(c) Requirement for remedial action of the operator.

14. OPERATING UNITS OR SWITCHES — Devices by which the function of lamps are controlled.

General Instructions

1. Visual Check of Lamp Function, includes all original mandatory equipment, exterior lighting, plus whatever lights have been added. If the moped is equipped with a lamp, it should work properly.

2. On mopeds without batteries the engine should be run at high idle speed to perform lighting tests.

3. All lamps and reflectors should be of the type approved for use by the Director of Transportation.

4. If only one inspector is checking, large mirrors may be placed so that all lamps may be observed from driver's position.

PROCEDURE	REJECT MOPED IF:
A. Visual Check of Lamp Function	A. Visual Check of Lamp Function
1. Switch on the night lights and visually check the following: (Steps a and b should be conducted with ignition switch on.)	1. Any bulb or sealed beam unit fails to light.
a. Actuate turn signal switch to right and left and observe function of turn signal lights. (If moped is so equipped)	2. Turn signals do not properly indicate right and left when switched on.
b. Actuate the headlamp upper beam and observe the indicator lamp. (If moped is so equipped)	3. Lamp or reflector shows color contrary to law.
c. Observe function of: stop lamp, tail lamp and reflex reflectors.	4. Any lamp fails to light the proper filament indicated at switch position.
NOTE: Refer to Appendix A, for Lighting Equipment, Color, Location and Height.	5. Any lamp or reflector does not direct light properly.
	6. Auxiliary equipment is placed on, in, or in front of any lamp or interferes with necessary visibility width.
	7. Lamp assembly improperly secured.
	8. Headlamp output is insufficient to illuminate 200 feet (60.9m.) ahead of the moped.
	9. Headlamp beam indicator lamp fails to function properly. (If moped is so equipped.)
B. Headlamp Testing Preparation	B. Headlamp Testing Preparation
1. Rock moped to free and equalize suspension and check visually for equal tire inflation.	Moped headlamp does not comply with mounting requirements. (Refer to Appendix A)
2. Aim with driver seated on moped.	
3. Clean lenses.	

PROCEDURE	REJECT MOPED IF:
4. Check for approved type headlamp. One headlamp is required.	Headlamp is not an approved type for use on mopeds.
5. Determine if lamp is mounted properly; the minimum height being not less than 24 inches (61cm.), nor more than 54 inches (137cm.) above the road surface upon which the moped rests.	
C. Headlamp Aim Adjustment	C. Headlamp Aim Adjustment
1. Beams shall be inspected for specific aim by using a headlamp testing device approved by the Director of Transportation.	1. Light output is not sufficient to illuminate 200 feet (60.9m.) ahead of the moped. Beam indicator is not operating. (If moped is so equipped.)
2. Adjust lamp until hot spot of beam is dropped horizontally 6 inches at 25 feet (8m,).	2. Proper adjustment cannot be made or maintained.
D. Additional Required Lighting Equipment	D. Additional Required Lighting Equipment
Inspect for operation, mounting, location, color, visibility, safe condition, wiring and switching of the following approved, required lighting equipment:	1. Any lamp or reflector fails to function, is improperly mounted, or fails to comply with the requirements in Appendix A.
1. Tail Lamp	2. Taillamp is not visible in normal atmospheric conditions at night from 200 feet (60.9m.) to the rear.
2. Stop Lamp	3. Stoplamp is not clearly visible under all conditions of lighting, including bright sunlight and when the taillamp is illuminated.
3. License Plate Lamp (if so equipped)	4. Stoplamp is not visible from 200 feet (60.9m.) to the rear, or cannot be activated by application of the brake.
4. Rear Reflector(s)	
5. Side Reflectors	

PROCEDURE	REJECT MOPED IF:
	5. License plate lamp (if so equipped) is not capable of illuminating the license plate, under normal atmospheric conditions at night, to be visible from a distance of 50 feet (15m.) to the rear, or does not activate by the same circuit which activates the headlamp. NOTE: No white colored light should be visible to the rear of the moped at any time when lighted lamps are required.

APPENDIX A

REQUIRED MOTOR-DRIVEN CYCLE LIGHTING EQUIPMENT, COLOR, LOCATION AND HEIGHT

ITEM/COLOR	LOCATION ON MOPED	HEIGHT ABOVE SURFACE OF ROAD UPON WHICH MOPED RESTS MEASURED FROM CENTER OF ITEM ON MOPED AT CURB WEIGHT
Headlamps/ 1 White	On the front and on the vertical centerline, they shall be symmetrically disposed about the vertical centerline.	Not less than 24 inches (61 cm.), nor more than 54 inches (137 cm.).
Taillamps/ 1 Red	On the rear and on the vertical centerline except that if two are used, they shall be symmetrically disposed about the vertical centerline.	Not less than 15 inches (38 cm.), nor more than 72 inches (183 cm.).
Stoplamp/ 1 Red	On the rear and on the vertical centerline except that if two are used, they shall be symmetrically disposed about the vertical centerline.	Not less than 15 inches (38 cm.), nor more than 72 inches (183 cm.).
License Plate Lamp/ 1 White	At rear license plate.	No requirement.
Reflex Reflectors/ 3 Red, 2 Amber	On the rear - 1 red on the vertical centerline except that, if two are used on the rear, they shall be symmetrically disposed about the vertical centerline. On each side - 1 red as far to the rear as practicable, and 1 amber as far to the front as practicable.	Not less than 15 inches (38 cm.), nor more than 60 inches (152 cm.).
Turn Signal Lamps/ 2 Class B amber; 2 Class B red or amber.	At or near the front - 1 amber on each side of the vertical centerline at the same height, and having a minimum horizontal separation distance (centerline of lamps) of 16 inches (40 cm.). Minimum edge to edge separation distance between lamp and headlamp is 4 inches (10 cm.). At or near the rear - 1	Not less than 15 inches (38 cm.), nor more than 83 inches (211 cm.).

APPENDIX A (continue)

REQUIRED MOTOR-DRIVEN CYCLE LIGHTING EQUIPMENT, COLOR, LOCATION AND HEIGHT

ITEM/COLOR	LOCATION ON MOPED	HEIGHT ABOVE SURFACE OF ROAD UPON WHICH MOPED RESTS MEASURED FROM CENTER OF ITEM ON MOPED AT CURB WEIGHT
	red or amber on each side of the vertical centerline at the same height and having a minimum horizontal separation distance (centerline to centerline of lamps) of 9 inches (23 cm.). Minimum edge to edge separation distance between lamp and tail or stop lamps is 4 inches (10 cm.).	
NOTE: TURN SIGNAL LIGHTS ARE NOT REQUIRED FOR MOTOR-DRIVEN CYCLES WHICH CANNOT ATTAIN A SPEED OVER 30 MPH. EACH TURN SIGNAL LAMP, WHEN REQUIRED, MUST HAVE AN EFFECTIVE LUMINOUS PROJECTED AREA OF AT LEAST 3 1/2 square inches (9 cm^2).		

GLAZING MATERIAL

(WINDSHIELD OR WINDSCREENS)

PROCEDURE	REJECT MOPED IF:
A. Glazing Material Windshield or windscreen are not required on mopeds, but if installed inspect for cracks, discoloration or scratches that create a serious vision obstruction. They must be mounted so the driver's vision is not obstructed when seated in the driver's normal seating position. They must also be of an approved type in compliance with Federal Motor Vehicle Safety Standard No. 205, entitled Glazing Materials, as amended.	A. Glazing Material 1. Windshield or windscreen obstructs the driver's vision when seated in the driver's normal seating position. 2. Any support or stiffener device is mounted in the driver's line of vision. 3. Glazing is not of the approved type. 4. Cracks, discoloration or scratches that create an obstruction.

BODY, FRAME AND ACCESSORY ITEMS

Definitions

1. SPROCKET AND CHAIN	A means by which motive power is transferred from the transmission to the rear wheel (except on models fitted with a shaft or pully and belt drive).
2. CHAIN GUARD	A guard shield protecting the operator from the chain.
3. FENDERS OR MUDGUARD	A shield over the wheels to protect the rider from foreign objects being thrown by the centrifugal force of the tire.
4. STAND	A center stand or side stand designed to allow the moped to stand alone. (Not applicable on three wheel mopeds.)
5. FRAME	The basic structural component to which the other components are attached.
6. SWING ARM	When fitted, the swing arm axis is located at the lower rear portion of the frame. The swing arm extends rearward and is attached to the rear wheel spindle. Shock absorber(s) are generally fitted between the swing arm and the main frame.
7. RIGID REAR FRAME (HARDTAIL)	When fitted, the rigid rear section attaches to the rear portion of the frame, and extends rearward. The rear wheel spindle is attached to the rear frame. No shock absorbers are fitted; however, certain frames include a "spring" mounting.
8. ACCESSORY ITEMS	Such items include, but are not limited to: cargo baskets, backrests, sissy bars or safety bars.

Tools and Equipment

1. Moped repair stand.

PROCEDURE	REJECT MOPED IF:
A. Body Items Check for required body items, defective or dislocated parts, and parts projecting from the moped on: Seat, Engine and Engine Mounting, Side or Center Stand, Chain and Chain Guard, and Fenders.	A. Body Items 1. Seat a. Seat is improperly or insecurely attached. Seat locking device not functioning where applicable. 2. Engine and Mounting a. Engine is improperly or insecurely attached. b. Engine mounting frame or brackets cracked or broken. 3. Side or Center Stand a. Side or center stand when placed in the stored position will not remain in that position. b. The side or center stand is cracked or broken, or apparent structural weakness is present, which could result in collapse. c. Side or center stand is held in the stored position by the use of any of the following: locking wire; rubber band; or other method which would not insure that the stand would remain in the stored position.

PROCEDURE	REJECT MOPED IF:
	4. Chain Guard The chain guard, or other device, is missing (if originally equipped), broken, cracked, or is not the reasonable equivalent of the original device.
	5. Fenders a. Fenders are missing, improperly mounted, cracked, bent, or if sharp edges are exposed. b. Fenders do not meet with approval of county agency.
B. Frame	B. Frame
1. Examine the moped frame and swing arm or rigid rear frame in all areas which would not require the disassembly of any frame components.	1. a. Cracks, welds, fatigue points, work hardening flexure is discovered which would indicate that the moped frame has suffered structural damage and constitutes a hazard to the rider. b. Frame is damaged so as to cause misalignment of the wheels in either vertical or longitudinal planes.
2. Swing Arm Bushing, Bearing or Rubber Mount a. Examine the swing arm bushing, bearing or rubber mount for wear or abnormal looseness while moped is on a repair stand.	2. Swing Arm Bushing, Bearing or Rubber Mount a. Bearing or bushing found to have noticeable play or binding.

PROCEDURE	REJECT MOPED IF:
b. Check for lateral play at axis.	b. Any play in excess of .015 inches (4mm.).
C. Accessory Items	C. Accessory Items
Visually check components for secure mounting, cracks, breaks, or sharp points that present a hazard to the rider.	1. Accessory items interfere with, obstruct, or prevent proper use of any control, component or system required for operation of the moped. 2. Accessory items have sharp, jagged edges, pointed bars or rod ends.

EXHAUST SYSTEM

Definitions

1. EXHAUST SYSTEM — Includes all components and piping extending from the exhaust manifold to the point of exhaust discharge.

PROCEDURE	REJECT MOPED IF:
A. Examine the exhaust system visiually for leaks and cracks.	A. 1. There are loose or broken joints, or areas where corrosion or rust has eaten through the device. 2. Excessive leakage exists. 3. Excessively noisey.
B. Check exhaust system components to see that they are properly mounted and that the supporting brackets are securely in place on the moped.	B. Exhaust system is improperly mounted.
C. Inspect for unshielded protrusions or any portion of the exhaust system mounted higher than the lowest part of the rider's seat pan.	C. 1. Heat shielding not sufficient to protect rider when in the normal seating position from contact with hot surfaces during operation. 2. Any portion of an exhaust system protrudes in a manner which may burn the rider when in normal seating position. 3. Any portion of the exhaust system is mounted higher than the lowest portion of the rider's seat pan.

PROCEDURE	REJECT MOPED IF:
	4. Baffle removed from the muffler. 5. Replacement exhaust equipment is not the reasonable equivalent of the original exhaust system. 6. Muffler has been modified, a portion of the muffler has been cut off, or pipes directed to side above 2 feet (61cm.) from the roadway. 7. Any type of cutout or bypass of the standard muffler.

FUEL SYSTEM

Definitions

1. FUEL SYSTEM — Includes all components and piping extending from and including the fuel tank filler cap to the carburetor or injection nozzles.

PROCEDURE	REJECT MOPED IF:
A. Visually examine the fuel tank, fuel tank supporting brackets and hardware, fuel tubing, clamps, fuel tank cap, vent hoses, fuel valve on/off, fuel filter and carburetor.	A. 1. Any part of the system is not securely fastened. 2. There is fuel leaking at any point in the system. 3. Fuel tank cap is missing. 4. There is physical damage to any of the components. (Advise driver if contaminated fuel or fuel filter is discovered.)